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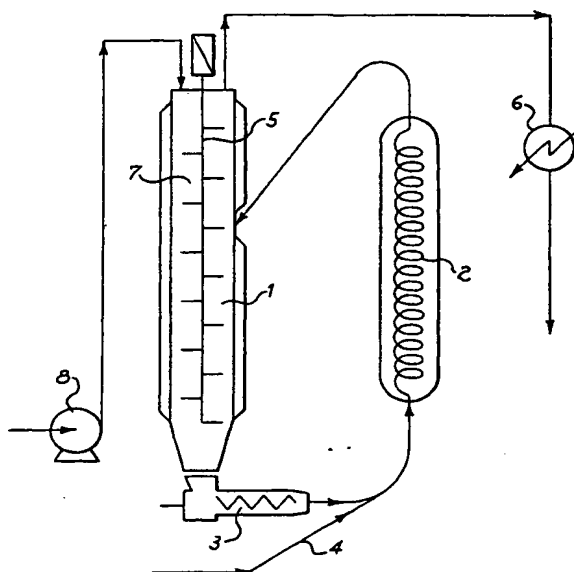
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- (71) Applicant (for all designated States except US): BASELL TECHNOLOGY COMPANY B.V. [NL/NL]; Hoeksteen 66, NL-2132 MS Hoofddorp (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): COVEZZI, Massimo [IT/IT]; Via Renata di Francia, 40, I-44100 Ferrara (IT). FAIT, Anna [IT/IT]; Via Arianuova, 56/B, I-44100 Ferrara (IT).
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[Continued on next page]

(54) Title: PROCESS AND APPARATUS FOR MAKING SUPPORTED CATALYST SYSTEMS FOR OLEFIN POLYMERISATION



(57) Abstract: A process to support a homogeneous catalyst on a porous solid support is performed in two separate zones. In a first zone the solid is contacted, under stirring, with an amount of a catalyst solution lower than the total pore volume of the solid. In a second zone the solid is dried from the solvent while flowing under pneumatic conveying. A loop circulation of solid is established between the two zones, so that the solid is subject to more contacting steps. The process is particularly suitable to support a metallocene-alumoxane polymerisation catalyst on a porous prepolymer. The process can be advantageously performed in continuous, thus fitting the needs of an industrial scale production process.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
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NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
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(57) Abstract: A process to support a homogeneous catalyst on a porous solid support is performed in two separate zones. In a first zone the solid is contacted, under stirring, with an amount of a catalyst solution lower than the total pore volume of the solid. In a second zone the solid is dried from the solvent while flowing under pneumatic conveying. A loop circulation of solid is established between the two zones, so that the solid is subject to more contacting steps. The process is particularly suitable to support a metallocene-alumoxane polymerisation catalyst on a porous prepolymer. The process can be advantageously performed in continuous, thus fitting the needs of an industrial scale production process.

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PATENT COOPERATION TREATY

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference TC 5417 ASC	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 00/ 12930	International filing date (day/month/year) 14/12/2000	(Earliest) Priority Date (day/month/year) 16/12/1999
Applicant BASELL TECHNOLOGY COMPANY B.V.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

none

☒ as suggested by the applicant.

☒ None of the figures.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

INTERNATIONAL SEARCH REPORT

Intern. Application No
PCT/EP 00/12930

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B01J19/18 B01J8/10 B01J8/22 B01J8/00 B01J37/02
B01J31/22 C08F4/02 C08F4/60 C08F10/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01J C08F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	W0 95 11263 A (MOBIL OIL CORP) 27 April 1995 (1995-04-27) claim 1 page 19, line 22 - line 32; example J page 21, line 19 - line 21	1,3,9, 11,12,16
A	page 25, line 17 -page 26, line 4 ---	20
X	W0 96 14155 A (MOBIL OIL CORP) 17 May 1996 (1996-05-17) page 11, line 27 -page 12, line 7 page 13, line 26 -page 14, line 3 ---	1,3,11, 12,16,17
X	EP 0 431 648 A (UNION CARBIDE CHEM PLASTIC) 12 June 1991 (1991-06-12) page 31, line 19 - line 40 page 44, line 3 - line 18 --- -/--	1,2

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

10 May 2001

Date of mailing of the international search report

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Fischer, B

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/12930

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 220 803 A (HENRY JOSEPH P ET AL) 2 September 1980 (1980-09-02) column 4, line 19 -column 6, line 3 examples 6-11 ---	1
A	EP 0 209 253 A (ENICHEM ELASTOMERS) 21 January 1987 (1987-01-21) figure 1 page 9, line 31 -page 11, line 26 example 1 ---	20
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/12930

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